REMARKS

Claims 12-18 stand allowed. Claims 3-4 and 8-11 stand allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claims 1 and 5-7 stand rejected under 35 USC §102(b) as being anticipated by Link, U.S. patent 5,850,409. Claim 2 stands rejected under 35 USC §103(a) as being unpatentable over Link, U.S. patent 5,850,409 in view of Meyer et al., U.S. patent 5,751,764.

Claim 1 has been amended to more clearly state the invention. Claim 3 has been rewritten in independent form including all the limitations of the base claim and any intervening claims. Claim 2 has been cancelled without prejudice. Dependent claims 6 and 7 have been amended to depend from indicated allowable rewritten independent claim 3. Thus, each of the pending claim 3-18 is believed to stand in condition for allowance. Reconsideration and allowance of independent claim 1 is respectfully requested.

Link, U.S. patent 5,850,409 discloses laser modulation control apparatus and methods that provide direct control of the transmitted optical extinction ratio of a semiconductor laser. A relatively low frequency and low amplitude pilot tone is superimposed on the signal used to drive the laser. Setting the amplitude of the pilot tone to a fixed fraction of the laser modulation current causes the transmitted optical power to vary a fixed fraction of the optical data amplitude at the pilot tone frequency. By using feedback to control the laser modulation current, the amplitude of the variation can be maintained at a desired value, which in turn maintains the transmitted optical

data amplitude at a constant value, regardless of variations due to operating temperature or laser aging. A separate control loop is employed to maintain the average optical power at a fixed value. Since the optical data amplitude and the average optical power remain constant, the optical extinction ratio is also constant.

Meyer et al., U.S. patent 5,751,764 discloses a switch comprising n I/O ports, where n>2, and a switching core having n inputs connected to the n I/O ports respectively and n outputs connected to the n I/O ports respectively and comprising means operable to connect the ith input, where $1 \leq i \leq n$ to at least the jth output, where $1 \leq j \leq n$ and j is not equal to i. The switch is configured to connect the kth I/O port to the lth I/O port by: (a) determining current connection state of the kth I/O port and the lth I/O port, (b) if the kth I/O port is currently connected to another I/O port, determining I/O ports to which the kth I/O port is connected and disabling those I/O ports, (c) if the lth I/O port is currently connected to another I/O port, determining I/O ports to which the lth I/O port is connected and disabling those I/O ports, (d) configuring the kth I/O port as a source and the lth I/O port as a destination, and (e) configuring the switching core to provide a forward connection from the kth I/O port to the lth I/O port and a reverse connection from the lth I/O port to the kth I/O port. The ports 20a and 20b each comprise a tri-state receiver 120 and a tri-state driver 124. The input of the receiver 120 is connected to the terminal 60 and the output of the driver 124 is connected to the terminal 62.

Applicants have reviewed all the art of record, and respectfully submit that the claimed invention is patentable over all the art of record.

In accordance with features of the preferred embodiment of the present invention, an optical margin testing system for automatic power control loops provides effective performance and is simple to implement. In the optical margin testing system for automatic power control loops the operating point of the light emitting device are both increased and decreased by a set percentage threshold to validate signal integrity margins. The margin testing is implemented without requiring complex software control or readjusting any bias control potentiometers. Optical margin testing system of the preferred embodiment effectively implements a 2-bit switched current source into an APC loop so that when the appropriate control signal is provided, the bias generator can increase or decrease the operating point by a defined percentage X%. A single I/O using a tri-state receiver with single input having a selected value of zero, high impedance, or one provides the control signal.

Independent claim 1 recites an optical margin testing system for an automatic power control loop comprising: an optical circuit including a laser diode and a monitor diode coupled to said automatic power control loop; a bias generator circuit for generating a control signal; said control signal applied to said automatic power control loop; and said control signal enabling an operation point of said laser diode to both increase and decrease by a set percentage value; and said bias generator circuit for generating said control signal including a tri-state receiver; a single input applied to said tri-state receiver, said single input having a selected value of zero, high impedance, or one. Applicants respectfully submit that the subject matter of the present invention as recited by independent claim 1 is not shown nor suggested by the references of record

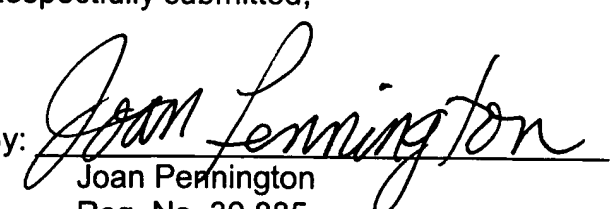
including Link and Meyer et al. A bias generator circuit for generating a control signal; said control signal applied to said automatic power control loop; and said control signal enabling an operation point of said laser diode to both increase and decrease by a set percentage value, and said bias generator circuit for generating said control signal including a tri-state receiver; a single input applied to said tri-state receiver, said single input having a selected value of zero, high impedance, or one, as claimed in independent claim 1 is not shown nor suggested by Link. Applicants respectfully submit that Meyer et al. adds nothing to render obvious the subject matter of the present invention as recited by independent claim 1. Thus, independent claim 1 is patentable.

Reconsideration and allowance of claim 1 together with the pending claims 3-18 is respectfully requested.

It is believed that the present application is now in condition for allowance and allowance of each of the pending claims 1, 3-18 is respectfully requested. Prompt and favorable reconsideration is respectfully requested.

If the Examiner upon considering this amendment should find that a telephone interview would be helpful in expediting allowance of the present application, the Examiner is respectfully urged to call the applicants' attorney at the number listed below.

Respectfully submitted,

By: 

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